U.S. Environmental Protection Agency
TMDL LISTENING SESSION

Wyndham Hotel
1400 M St., NW
Washington, DC

December 11, 2001

Meeting Summary

The fifth in a series of five TMDL Listening Sessions was held on December 11, 2001, at the Wyndham Hotel in Washington DC. A copy of the agenda is included at http://www.epa.gov/owow/tmdl/meetings/dc/agendadc.html. Approximately 300 people attended the meeting, representing federal, state and local agencies, regulated industry, environmental groups, agriculture, and other interested citizens. This document summarizes the ideas discussed in plenary sessions by the participants at the meeting. Comments noted on worksheets from the small group discussions and those submitted by individuals may be found at Attachment A.

Welcome, Introductions, Review Meeting Agenda and Ground Rules

Mr. Tracy Mehan, Assistant Administrator of the Office of Water for the U.S. Environmental Protection Agency (EPA) welcomed the group. Participants joined Mr. Mehan in observing a moment of silence to honor the victims of the September 11, 2001 terrorist attacks, and for US Armed Forces overseas. Mr. Mehan highlighted that, in the thirty years since the passage of the Clean Water Act, EPA and the states have focused with great success on point source discharges. However, significant water quality challenges remain, particularly concerning nonpoint sources. The Total Maximum Daily Load (TMDL) program has the potential to be an effective, information-based strategy for taking the next steps to achieve water quality goals and to inform and empower citizens, communities and states. EPA, through the TMDL program, has made progress in becoming a more proactive partner with the states, and private and public sector stakeholders, in developing and implementing local restoration actions. Since the late 1990s, EPA has recognized the need for a new TMDL rule and hopes to utilize the Listening Sessions as one platform to gather important ideas regarding what that rule might contain.

Next, Mr. Mehan introduced Listening Panel members, including:

Dr. Mack Gray, Acting Deputy Under Secretary for National Resources and Environment, USDA;
Mr. Thomas Morrissey, Director of the Planning and Standards Division, Connecticut Department of Environmental Protection;

Mr. Robert Wayland III, Director of the Office Wetlands, Oceans and Watersheds, EPA;
Mr. David Katz, Deputy Water Commissioner, Philadelphia Water Department;
Ms. Joan Mulhern, Senior Legislative Counsel, Earth Justice;
Mr Howard Neukrug, Director of Watersheds, Philadelphia Water Department;
Mr. Robert Olszewski, Vice President of Corporate and Environmental Affairs, Plum Creek Timber Company;
Mr. Richard Parrish, Senior Attorney, Southern Environmental Law Center;
Mr. David Salmonsen, Legislative Counsel, American Farm Bureau Federation; and,
Mr. Richard Schwer, Senior Consultant, Environmental Engineering, Dupont Company.

Dr. Mack Gray voiced his appreciation on behalf of the U.S. Department of Agriculture for the opportunity to attend the Listening Session. Dr. Gray shared his long-standing experience with the Natural Resource Conservation Service and recent return from retirement to work with the USDA. He asserted the importance of continuing to strengthen and build a partnership between the EPA and USDA, and for each agency to understand the role and concerns of the other.

Mr. Morrissey added a welcome on behalf of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), urging the importance of addressing impaired waters. He highlighted that the states continue to be engaged in challenging debates regarding the TMDL program and, along with ASIWPCA, strongly support the EPA's efforts regarding the TMDL rule. The states remain firmly committed to cleaning up the nation's waters. Mr. Morrissey asserted that the different programs (e.g. wetland protections, CSOs, and groundwater protection) should be flexible in order to address the different issues in each state and region. States concur that the TMDL program should build upon and partner with other programs and employ creative approaches to resolve existing and future challenges. Finally, Mr. Morrissey pointed out that resources are needed at all levels for monitoring and permitting. He thanked participants for their attendance and EPA for the opportunity to participate in the discussion.

The facilitator, Ms. Gail Bingham, reviewed the proposed meeting objectives, agenda, and logistics.

Presentation and Panel Discussion: TMDLs – Improving the TMDL Program

Next, Mr. Wayland provided a brief presentation to the group highlighting key aspects of the TMDL program, program goals, current program initiatives, and key rulemaking dates and issues. Mr. Wayland also shared the objectives and highlights from each of the four previous Listening Sessions. [Mr. Wayland's presentation may be viewed at http://www.epa.gov/owow/tmdl/meetings/dc/.] He then invited the Listening Panel to add their thoughts about issues and challenges that they believe are important for setting the stage for this

meeting.

Mr. Schwer emphasized the importance of utilizing the appropriate water quality standards. Mr. Salmonsen noted that the issue of whether implementation plans should be included as part of a TMDL raises concerns for many. Mr. Parrish noted that ensuring that the TMDL achieves water quality improvements requires a clear implementation plan. He also pointed out that EPA leadership is especially needed to overcome reduced water quality budgets. Mr. Neukrug pointed out the need for public understanding and awareness about water quality. He shared hopes that a process will help to highlight the importance of protecting drinking water supplies. Mr. Olszewski stated that the TMDL program has the potential to assist the nonpoint source community in getting more involved and aware of water quality issues by working with and through familiar, understandable, programs geared towards dealing with nonpoint sources. He stressed the importance of Section 303(e) of the Clean Water Act, e.g., the continuing planning process.

Ms. Mulhern expressed the urgency of implementing of the Clean Water Act. She shared concern about proposals made in previous listening sessions and other settings that create the potential to avoid setting and implementing TMDLs and, thus, delay the job of cleaning up impaired waters. Ms. Mulhern concurred about the importance of the TMDL program as a central piece of other Clean Water Act efforts. Mr. Katz added that it will be important to integrate the lessons learned from the NRC report and previous national, water quality efforts. This effort will require better science, implementation and determination, as well as making and enforcing tough decisions. He encouraged a careful look at designated uses, ensuring that they are achievable and were set appropriately. EPA should also implement minimum standards for assessment and monitoring.

Mr. Mehan spoke to the challenges of integrating the different programs. Many states do not have direct, regulatory authority to address nonpoint sources, making the need to form partnerships even more important. However, states have expressed an interest and willingness to address the issues and resolve nonpoint source challenges. Highlighting the successful use of best management practices (BMPs) in other arenas, Mr. Olszewski supported increased efforts at implementing BMPs with attention to monitoring of performance measures When water quality standards consistently fail to be met then the standard and/or the BMPs need to be reassessed. Implementation plans should fall under the state's continuous planning process. Mr. Parrish commented that BMPs are a valuable tool but should not be relied on as the only solution. Mr. Wayland added that it has been useful to see several states that have incorporated a requirement for an implementation plan into their programs.

Mr. Salmonsen brought up that EPA and the states should develop a TMDL program based on good data, with locally driven, flexible and cost-effective solutions. Detailed implementation planning should occur, but each state should retain the ability to adopt what works for it. Dr. Gray asserted that the challenge for EPA and the states is to work out procedures and partner effectively with local stakeholders to carry them out. Mr. Schwer expressed concerns about

how to proceed with permitting for point sources prior to the development of TMDLs.

Ms. Mulhern asserted that reviewing the water quality standard and uses should not delay implementing the TMDL program. Mr. Neukrug shared his interest that the TMDL program become a tool for developing a more holistic view encompassing other programs, such as source water assessments in the drinking water program. Mr. Olszewski added that EPA and the states should recognize and give credit for existing programs and efforts leading the way. Mr. Schwer commented that the 303(d) list should focus on specific pollutants and utilize enough data to constitute a statistically valid process.

Mr. Mehan noted that the issue of an implementation plan and how prescriptive it is was a pivotal issue. He highlighted the issue of whether the plan should be in the continuing planning process or in the TMDL. He asked Listening Panel members how significant the TMDL process is as an information-based strategy, setting aside the implementation plan. Mr. Neukrug responded that it is an important way for the public to learn about causes of impairments. Mr. Salmonsen added that it constitutes a basis for credible information, which can be used to gather resources to focus on water quality. Mr. Parrish agreed that the information is valuable, but reemphasized that without implementation actions the water quality problems themselves will remain.

The facilitator reviewed instructions for the break out sessions with the group.

Facilitated Roundtable Discussions: Identifying Waters For Which TMDLs are Needed (Session I)

Following a short break, participants engaged in small group discussions focusing on identifying waters for which TMDLs are needed. A plenary session followed, in which the facilitator drew out highlights from the small group discussions.

How can EPA and the states improve the amount and quality of data used as the basis for identifying impaired waters? How can the science for determining which waters are impaired be improved?

Many small groups highlighted the need for additional personnel and technical expertise on the ground, additional funding, and greater partnerships and cooperation among agencies at all levels.

There also is a great need to improve the ability to analyze and interpret existing data. One group proposed standardizing data interpretation for greater clarity and understanding between EPA, the states, and other stakeholder groups. Many participants proposed partnering among federal or interstate agencies to share data and analyses relevant to water quality.

One small group suggested that EPA provide guidance to states to establish a clear threshold

for minimum data needed to make listing decisions. Many groups emphasized that data needs to reflect current conditions in the watershed based on the pollutant. One group shared the hope that moving to watershed-based solutions would alleviate discrepancies between listing and de-listing across states. Another group pointed out that data can come in different forms, and suggested that states should use a weight-of-evidence approach. Others suggested that EPA should provide guidance to ensure a consistent approach to data collection and analysis. Another group commented that the approach to data collection and analysis should not be based in federal regulations, but instead be based on EPA guidance outlining different options and approaches states could follow. Data quality can be improved by quality assurance/quality control requirements. EPA could approve quality assurance/quality protocols and then be assured that the process and data results are acceptable.

One small group raised the question of how states might determine that volunteer-submitted information is legitimate for use in decision-making. Another group focused on the need for EPA to prescribe that states only use approved test methods. Some small groups asserted that EPA should be strict about minimum data standards to deliver a clear message to the states: the priority is that water bodies be designated on the 303(d) list as impaired only with sound justification. States must be realistic about timelines if adhering to minimum data standards. One small group raised the issue of site-specific considerations (e.g. for manmade lakes). Group members commented that resources should also be dedicated to reviews of water quality standards and use attainability assessments as well.

One small group recommended that resources should be targeted to where they are needed most at the local level. A small group pointed out that many improvements could happen through 319 guidance. States also need the flexibility to define designated uses.

What should be the format of the list of impaired waters? Should there be a candidate list, and if so what types of waters should be included on that list? Should the list be submitted every 2, 4, or 5 years, and why?

One small group commented that the frequency of listing is not as important as ensuring that the list credible. Group members asserted that the methodologies must be clear and the process for adding or removing water bodies from the list must be consistent. Participants disagreed about the use of a candidate list, with some participants being concerned that this list can be used as a way to facilitate delisting. One group emphasized that no water body should be put on a list without sufficient monitoring. Others suggested that a candidate list would trigger more intensive monitoring.

Several small groups felt that a 2-year cycle would be too short. Some pointed out, however, that the current 2-year cycle would allow for more public input into the listing process. Others advocated for decreased frequency (a longer cycle), because it would allow for the development of better, science-based lists and more accurate measurement of whether water quality standards have been attained. Others added that a 5-year cycle would give states

maximum flexibility. One small group urged EPA to recognize the public's confusion between the 305(b) and 303(d) listing cycles and encouraged a congressional resolution to better coordinate the two. There is a similar need for synchronization between listing and permitting cycles, suggested another small group. Two years is too short from a resources perspective.

One small group supported a 5-year cycle, proposing that the 305(b) list should be done every five years as well. Five years makes sense as long as an effective process for interim updates is established based on data generated between time periods. Another small group expressed an interest in increasing public input in the process. A 5-year cycle could enable states to develop a better process, spend more time on data collection, evaluation and public comment. One small group pointed out that a 5-year cycle would help counteract the apathy developing amongst stakeholders; they would no longer have to "go through the motions" of developing comments that would not have a real impact due to the short time frame. Another small group supported a 5-year cycle with an annual monitoring plan to prevent states from waiting until the last minute. Another group suggested that a 3-year cycle would be good.

One small group highlighted the need for a comprehensive approach, including threatened waters, and supported integrating the 303(d) and 305(b) lists so that the list of impaired waters remains within the context of all state waters. Such a comprehensive report would be more accessible to the public. Many small groups concurred that the list would be more valuable if placed in the context of the condition of other state waters. Several small groups supported recent guidance on list integration. Participants discussed long-term planning and listing, many agreeing that impaired waters should be listed regardless of the source of the impairment. How to address the problem once a water body is listed is a separate issue. One small group pointed out that it is unclear how groundwater data will fit in. Some small groups proposed a 4-year cycle to coincide with 305(b) statutory requirements.

States need the flexibility to deal with legacy pollution problems separately, asserted one small group. They said that TMDLs are not a good tool for some problems, such as abandoned mines and atmospheric deposition.

Some felt that states should review designated uses for appropriateness. One small group suggested that if a water is predominantly impaired due to nonpoint source issues, it should not be listed on the 303(d) list because: (1) other programs could appropriately address the impairment, and (2) EPA has no statutory authority to list waters impaired by nonpoint sources. If a state made the determination that an impaired water body would meet water quality standards in the near future with current water quality measures, this group felt that waterbody also should not be listed. The small group proposed a triage mechanism to focus on top priorities to be dealt with. Another group disagreed and asserted that the biggest issue is public education and input. They supported a candidate list being utilized where there is insufficient information to identify those water bodies for further data collection. A planning list can be useful for certain states but should be done on a state-by-state basis and not mandated.

What are the most effective ways for the public to participate in the establishment and review of the lists?

One small group shared that there are not many good solutions for increasing stakeholder involvement. Their discussion focused on the potential role that politicians could play at the state and local levels to highlight watershed issues. They emphasized the need to leverage interest in watershed management. Another small group proposed a book along the lines of the popular "dummies" series for understanding the listing process. Stakeholders are interested in water quality issues but states are challenged to make the information more understandable. Finally, one small group utilized two definitions of public: (1) the "engaged" public, for which one solution might be to use existing resources, such as conservation districts, to get information out regarding TMDLs, and (2) the "general" public, which is less aware and more apathetic. EPA and the states must be more proactive in trying to reach them and helping them understand the importance of these issues through the mass media, market research and public service announcements.

Facilitated Roundtable Discussions: Using TMDLs and Other Programs to Achieve Water Quality Standards

Following the lunch break, participants engaged in further small group discussions focusing on using TMDLs and other programs to achieve water quality standards. A plenary session followed, in which the facilitator drew out highlights from the small group discussions.

How should TMDLs consider controls developed pursuant to other Clean Water Act programs such as storm water controls and 319 programs? Should TMDLs be deferred until after implementation of these programs? Should the same consideration be afforded to Federal programs and activities under other statutes, e.g. USDA programs?

One small group viewed TMDL development as an iterative process. Their initial sense was to do the TMDL, continuing the other programs, and factor in a "best guess" estimate about the potential gains from the other programs. At the end of a specified timeframe, the state can look back at the collective results from all the programs to see if the TMDL's goals were achieved. If the goals have not been met, the state should look at the use attainability analysis and whether or not it is justified, ask if the TMDL was done correctly, or make other corrections until it reaches the goal. The small group primarily discussed the 319 program, but attempted to estimate what other programs would effect TMDLs.

Another small group looked at the sequencing of TMDLs and other program implementation, concluding that implementation plans may need to be deferred until after TMDLs are in place. Others brought up a suggestion for a third category of candidate water bodies. There should be better integration of all existing programs, including: 319, municipal separate storm sewers (MS4 permits), voluntary programs, restoration programs, etc. It is important that TMDLs are

developed recognizing the need for integration to prevent conflicts between programs. One group suggested that there is a need for a table or matrix identifying the regulatory and voluntary programs to be drawn upon, included with each TMDL. Many TMDLs currently describe more generalized approaches. One small group did not reach consensus that implementation should be required as part of a TMDL, but did agree that more specific policies and guidance are needed regarding implementation. Group members suggested that perhaps it is still the state's responsibility to ensure and enforce the implementation plan.

One small group pointed out that the Chesapeake Bay program is functionally equivalent to a TMDL and creates opportunities for coordination between many agencies and programs. Thus, TMDLs for this and other tidal reaches should be delayed until the results of implementation actions for the existing program(s) are known.

Another group reported a wide disparity of views – one group member thought that NPS BMPs should be implemented before doing a TMDL, while other group members felt strongly about the benefits of doing a TMDL because there is a great deal of uncertainty about the voluntary nature of some programs and TMDLs contribute to the information needed to identify sources of impairment and, therefore, to identify effective ways to reduce that impairment. One small group asserted that states cannot afford to delay TMDLs due to the extent of water quality problems and concerns about water supply in many parts of country. They felt that the TMDL and other water quality programs should happen simultaneously.

Another small group discussed "What Is a TMDL?," distinguishing between the process and the setting of a number. They felt that establishing the TMDL number(s) should not be deferred but that implementation actions using existing programs should be maximized. The small group also urged EPA and the states to assess the results being achieved by other existing programs and for the effectiveness of BMPs. One small group supported the idea of a 2-step process: a TMDL limit could be set with implementation on a different track. Ideally, implementation plans would be locally developed, but this could take longer.

What should be included in the TMDL decision itself? At what stage in the process should specific allocations be decided? Why? How can EPA facilitate greater participation in TMDL development?

One small group discussed doing specific allocation of loads to particular dischargers or landowners in the implementation phase. General allocation to point and nonpoint sources could be done during the allocation of the TMDL. The small group noted the lack of data for nonpoint sources, and encouraged the development of that information during the TMDL implementation phase. Another small group envisioned a 2-step process: first to define only the load, and then providing implementation over an extended period of time to allow for the evaluation of how nonpoint source controls are working. This approach allows trading to occur. One small group supported a 2-step approach with a separate implementation plan approved by EPA. They pointed out that the process required for developing an

implementation plan is different from the process for determining assimilative capacity. The analysis required for loading decisions is more objective than for the implementation/allocation process. The small group felt that it is important to have a longer period for stakeholders to be involved in the implementation plan and process.

One small group tied these issues in with the concept of adaptive management and suggested giving states the flexibility to revisit and change allocations as they conduct the process. The less specificity at the outset in the TMDL process allowing allocation changes later, the better. They also pointed out that there are anti-backsliding problems if allocations are too specific. Another small group supported a 2-step process, first to allow for target-setting and then, second, to work with stakeholders to implement the plan. Another proposed that if EPA is going to require something up front, it should be a process for implementation rather than a plan. One small group was concerned about making the TMDL too complicated. One of the results is decreased flexibility. They proposed keeping the implementation plan out of the TMDL. But they stressed the need for EPA and the states to facilitate stakeholder involvement to come up with solutions.

One small group expressed support for moving implementation plans out of the TMDL process only to the extent that there are reasonable assurances that point sources and nonpoint sources will bear an equitable share of the actions that will be required. One small group recommended strengthening the continuous planning process as a mechanism for implementation.

Another small group shared its concerns about de-coupling implementation from the TMDL because then the implementation may never occur.

What should EPA's response be when a TMDL analysis indicates a problem with the underlying water quality standard?

One small group asserted that an alternative approach should be available in situations where existing water quality standards (WQS) cannot be met due to natural processes. EPA needs to develop better translators for narrative criteria, and support better science. Some participants asked whether a waterbody should be considered out of attainment if the water quality standard is only exceeded once every three years. Another small group pointed out that, if there is an extended period needed for a waterbody to achieve compliance, there will also be time to review the appropriateness of the WQS. This is one clear place where a strong EPA role is warranted. As an example, one group said that many waters are listed for dissolved oxygen violations but, in many cases, it is unrealistic for DO levels to meet a 5 mg/l standard. One small group suggested that rather than focusing on changing water quality standards in all cases, the state ought to give lower priority to waterbodies with inappropriate standards. One group felt that, where a WQS is not appropriate, the waterbody should move off the list. Another group noted that it is burdensome to change state WQSs.

How can EPA facilitate trading and still achieve water quality improvements? What are the issues and how might they be overcome?

One small group proposed having stakeholders at the table write the implementation plan as trading partners. They felt that if there is a trading mechanism, it should be made on a 1:1 basis so that point sources feel it is equitable. The state should develop ways to address liability questions so that the point sources are not ultimately responsible for nonpoint source actions. Another small group found that none of its group members had the same point of reference for "trading." Group members identified the need to establish clearer concepts for what trading might involve, and to identify places where it has worked. They noted that prior proposals didn't meet with great success but expressed optimism about continuing to work on the issue. One small group questioned whether trading policies should be considered within the TMDL rule or should be developed separately.

Another group recommended that for trading mechanisms to successfully achieve desired improvements there would need to be some assurance about implementation. The small group proposed adding a local authority to track implementation of an established trading program.

Several participants expressed greater support towards trading within watersheds. One small group specifically discussed the watershed scale issue. Group members noted the many tiers of watershed sizes and the need for a mechanism to document that the water quality benefit desired through trading can actually be monitored in the water body. There should also be monitoring for inter-pollutant trading to show progress toward the implied water quality benefit. One group suggested that cross trading could occur between watersheds. They encouraged EPA to keep the options as broad as possible to ensure effectiveness in different regions and locations. Trading might work well linked to rotating basin assessment.

One small group encouraged states and EPA to measure the effectiveness of trading mechanisms, including ensuring the effectiveness of BMPs, and ensure safeguards/enforcement for trading. A different small group discussed but could not reach agreement on trading toxics. Some group members expressed skepticism that trading is even practical due to high administrative costs. The small group concluded that therein lies a role for EPA in developing guidance on that issue.

Another small group asserted that the government shouldn't simply make allocation decisions and assign those allocations to point and nonpoint sources. Instead, stakeholders should be involved from the beginning with modeling discussions. Point sources and nonpoint sources then could engage in a dialogue about the integration of the different mechanisms. When discussing trading, there is a need for flexibility in the implementation process. Economics of trades need to be considered at an earlier stage.

One small group asserted that trading doesn't have a role in the TMDL program if it consists of a simple loading number because it is only at end of process when wasteload allocations have

been finalized and assigned that individual sources know what they "own" and, therefore, what they can trade – i.e. one can't make a "deal" (trades) until the cards are dealt (loads allocated). The small group discussed the need for a flexible program to allow trading to occur. Another group noted that trading could mean that point sources have a long-term right to discharge. However, this both would be problematic to some stakeholders and might not be consistent with the concept of a permit, i.e. permits only last for five years but trades conceptually could be for an indefinite duration.

What should EPA do if TMDLs are not developed or implemented in a reasonable time, and/or if expected improvements in water quality do not occur?

A small group pointed out that the roles are already laid out: if the state does not do a TMDL, EPA must do so. If the water quality is not being met in spite of adherence to the implementation plan and actions, the state must conclude that TMDL is incorrect and should be revised. EPA oversight is needed to check that these actions occur. One small group articulated that a new rule should spell out what would happen in the event that a TMDL were not developed within a reasonable timeframe. Another group discussed EPA working with states to ensure continuing progress towards their goals. One group noted that the Section 401 certification process of the Clean Water Act is a big hammer that EPA can use with the states. EPA could shut down 401 certifications if TMDLs are not being developed and implemented.

In one small group, an individual raised a concern that it is unrealistic for EPA to expect states to carry out TMDLs for all impaired waters, given current budget constraints. The small group encouraged flexibility for states to focus their resources and do TMDLs where they are most important. Once EPA and the states have established their priorities, EPA should work through performance partnership agreements, and regional level relationships to make sure the states meet those priorities. This group pointed out that removal of funding only exacerbates the problem, since lack of funding and personnel is the principal reason states do not proceed with TMDLs. Another small group suggested that if a TMDL is not developed, there might be a role for counties or industry in doing third-party TMDLs. Finally, one small group agreed that alternative means such as interagency personnel agreements could assist states to mobilize personnel with expertise to help move along TMDL development and/or implementation.

Listening Panel Roundtable

The facilitator then turned to the Listening Panel to draw some of the themes of the day together, and invited Mr. Mehan to raise the first question to the panel. Mr. Mehan asked the panel what they heard about ways to utilize trading mechanisms in an effective way. Mr. Parrish noted that trading is one strategy that should be considered for the TMDL program. It may have a role in certain circumstances, but it is likely to be a small part of the solution as there are too many barriers for it to be used extensively. Trading doesn't work unless there is some mechanism for accountability. Mr. Morrissey suggested that it will be important to understand the relationship between the water quality impairments and the sources of pollution,

taking distance and assimilation factors into account, as a basis for effective trading programs. He proposed that sources closest to the problem be given the largest credits since they have the biggest impact on the problem, with those at a further distance having to achieve greater reductions for equivalent credits. That will drive trading, with the sources closest to the impairment having the incentives to participate in the trading program earliest. Sources also must show that they have achieved real reductions to trade. Accountability is very important in order to generate and trade credits. Mr. Morrissey concluded that trading does have tremendous potential, if done correctly.

Mr. Mehan clarified that trading will not necessarily be a big part of the TMDL rule. But, he wants to make sure that the rule is compatible with trading.

Mr. Salmonsen added that trading can be another incentive for actions to improve water quality. He remarked that if EPA were going to utilize credits, there would need to be mechanisms to monitor the impact of existing sources on water quality, which might help address concerns about who is ultimately liable. Mr. Schwer commented that liability is a concern, particularly in the way the offset provisions were written in the 2000 rule. He felt that point sources should not be held accountable for their trading partners' implementation responsibilities. He cautioned that such policies would limit point source participation in trading. Mr. Oszewski noted that other, logistical issues need to be taken into account, including how to time trades and credits. For example, he felt credits should be given at the time a nonpoint source implements controls. Mr. Morrissey disagreed, saying ideally sources would be trading credits in the bank for actual water quality improvements.

Mr. Wayland asked the Listening Panel to elaborate on the issue of EPA's role. The existing regulations say little about the pace of the program, whereas the 2000 rule went further in specifying timeframes and consequences. Some stakeholders felt that the latter was overly restrictive; EPA's interest is to understand the middle ground for the 2003 rule, including specifics on a timetable. Ms. Mulhern noted that EPA's role is clearly spelled out in the statute. She expressed concern that the 2000 rule actually gave EPA too much time to develop a TMDL when the state has not. She agreed with comments made from the small groups that characterized EPA's role as a "backstop."

Mr. Katz said that it is important to distinguish between TMDL development and TMDL implementation with respect to our thinking about timing. He commented that science, not policy drives the implementation of TMDLs to achieve water quality standards. A ten-year goal for implementation may work for some states but not for others. The ultimate decision for how long it takes should be driven by science. Mr. Neukrug responded that the states would continue to move forward and gain momentum on projects as the TMDL process moves forward. Land, water, and sewer-based actions must happen together and address many components within watersheds. Watershed management should be the driver, not TMDLs. TMDLs are important, but only one of the tools for water quality improvements. Source water protection under the Safe Drinking Water Act, Section 319, farm programs also are important.

Mr. Parrish noted that implementation plans remain a big issue, and were a theme during the small group discussions. From his perspective, the notion of moving implementation plans outside of the TMDL rule remains fuzzy, and so he still thinks that implementation plans should be a requirement as part of each TMDL. Further, implementation plans themselves are not sufficient to know whether water quality improvements have actually been achieved; follow up monitoring is essential.

Mr. Morrissey replied that he supports a 2-stage approach as discussed by some of the participants. The first step would be a gross allocation between point and nonpoint sources with a margin of safety. The second step would be the development of an implementation plan which is a more social or political process requiring both funding at the state level and local involvement. EPA has the ability to make sure implementation happens through performance partnership agreements with states. Mr. Mehan replied that the information generated by the process may be a powerful impetus for implementation in and of itself. Mr. Wayland reminded the group that roughly half of the states have a court-ordered schedule for TMDL development. Requiring an implementation plan as part of the TMDL adds increased burden in achieving these deadlines, because additional detail is required. EPA has no ability to modify schedules.

Mr. Olszewski commented that no one has said there shouldn't be implementation of TMDLs in one way or another. The discussion is about the mechanism for implementation, with stakeholders expressing fundamental differences of opinion about the TMDL program and what it is meant to accomplish. Congress laid out a vital role for the TMDL program as the great assimilator of many federal, state and local programs to work together to make progress in meeting standards. This is important, because different implementation approaches are needed for point and nonpoint sources. He supported taking an adaptive management approach to the program; if the standards are not achieved in 10 years, EPA and the states will have to reassess and address what needs to be done to move forward. It would be a mistake to think that, in the TMDL program, Congress gave EPA a new nexus to direct oversight over nonpoint sources that has never been there in the past.

Mr. Katz commented that, if society is committed to meeting water quality standards then all stakeholders need to "step up to the plate" and take some responsibility for implementation. He agreed with the distinction between nonpoint and point sources for implementation purposes, because each faces different constraints, however he questioned whether we really are serious about reducing nonpoint sources. Mr. Olszewski replied that nonpoint sources are serious about action, but highlighted the technical issues that make it difficult to identify the causal links between water quality standards and nonpoint source pollution. There are also social issues associated with the fact that one is dealing with individual landowners. There are financial and other constraints in terms of moving the ball forward. All of these are reasons why nonpoint source controls must be developed in a structurally different way. Mr. Katz added that nonpoint sources are "young" as compared to point sources, which have been dealt with for a longer time. He asserted that agencies and stakeholders must be serious about managing nonpoint sources and land use if they are committed to achieving water quality standards. Mr.

Olszewski characterized as a need for nonpoint sources to be attentive to working with state water quality agencies on assessments to identify where their discharges are causing water quality impairments. These assessments must be site specific and are more easily dealt with on a state-by-state basis.

Mr. Salmonsen addressed the issue of credibility; for the TMDL program to be accepted at state and local levels, good data must be incorporated into the listing process. He expressed the hope that EPA and USDA will provide additional resources for states for monitoring, etc. He also underscored the importance of looking at the entire range of programs available to address nonpoint sources.

Mr. Neukrug focused on nonpoint sources as a large issue for drinking water systems, particularly with regards to source water protection. He hopes that the TMDL process will bring nonpoint source parties to the table to do their fair share. Mr. Olszewski brought up prioritization and timing issues. As EPA considers this program, it would be smart to think more broadly about priorities, particularly in the context of setting water quality standards. Current standards have been developed principally with point sources in mind. All stakeholders need to be involved in future discussions of water quality to help nonpoint sources become more comfortable with the goals and priorities that are set.

In wrapping up, the facilitator asked each panel member to mention any points that had come up during the day that should be noted before closing. Mr. Salmonsen stated that any program affecting land use also must involve local government and officials. Mr. Schwer commented that biological or narrative criteria may need better translation if used as a basis for establishing targets for TMDLs. Mr. Parrish underscored that the purpose of the Listening Session – and the TMDL program – is to work towards restoring water quality. We have serious water quality problems in this country, and experience suggests that these conditions won't be improved without regulations. Water quality improvements cannot happen with a solely voluntary program.

Mr. Olszewski brought up the issue of candidate lists, which remains a confusing issue. People are confused about what the purpose of a candidate list would be; many prefer that the listing process just focus on waters impaired by specific pollutants. Mr. Neukrug shared that he is still concerned about the lack of public awareness and understanding of TMDLs. He also noted that source water protection hasn't been discussed at the Listening Session, but that this is a very important issue. The drinking water industry has expended funding alongside states for source water protection; he expressed the hope to see that link strengthened with this process. Ms. Mulhern heard many suggestions about how to better implement the TMDL program (e.g. using other laws and programs under CWA). She also heard many things that concerned her because they could be interpreted and used as ways to avoid having to do TMDLs (e.g. de-listing, functional equivalents, not including waters impaired by nonpoint source pollution only, the concept of a TMDL "highway with offramps" and wholesale rewriting of water quality standards). Ms. Mulhern emphasized that, while TMDLs may not be the end-all, they are a

necessary part of cleaning up impaired waters and constitute a test of seriousness about getting there. She suggested that EPA consider not doing a new rulemaking in 2003 but emphasized getting on with implementing the program under existing rules.

Mr. Morrissey said that it is important to remember that, in the end, government programs must hold themselves to a high standard of public accountability. The TMDL regulations and the program itself must achieve the public's goals of water quality improvement, be cost-effective, and transparent. The taxpayer should understand what he or she is paying for. These Listening Sessions have helped raised public consciousness about these issues, and EPA and the states must continue to engage the public on an ongoing basis.

Mr. Katz noted that the discussion did not explicitly touch on NRC's recommendations on adaptive implementation. He asked how the law and policies might be changed to make adaptive implementation a true element of TMDLs. The regulations also need to address the equity issue between point and nonpoint sources.

Wrap Up/Next Steps

Mr. Mehan thanked the attendees for their participation, on behalf of Governor Whitman, the Office of Water, and the leadership and staff of the Office of Wetlands, Oceans and Watersheds. Nonpoint sources are the next frontier for achieving water quality improvements in this country, and, given the complexity of the problem, taking a watershed approach makes sense technically and socially. He remains interested in exploring the potential for market-based approaches as well, although policies may not be tied directly to the TMDL program.

Mr. Wayland and Ms. Bingham also thanked attendees for their participation and contributions to the Listening Session. They also gave a special thanks to the facilitators for their efforts at the Session.

The meeting adjourned at 5:30pm.

ATTACHMENT A

US EPA TMDL LISTENING SESSION, WASHINGTON, DC
December 11, 2001

PARTICIPANT COMMENT WORKSHEETS

Session One

How can EPA and the states improve the amount and quality of data used as the basis for identifying impaired waters? How can the science for determining which waters are impaired be improved?

- minimum threshold for data quality; apply the same rule to existing lists
- listing should be based on actual monitoring and data - rotating watershed approach can increase assessment
- TMDLs are part of information development process
- need money for monitoring or collaboration and other data sources
- toxics need to be reevaluated by OST - what is risk of nonpoint
- models are no substitute for data
- hydrology data has to be collected with WQ data
- translation of narrative standards into field collectable data
- resources need to grow for monetary support
- collaboration of data collective agencies' data bases
- define a mechanism to generate good data, QA/QC programs, education of those collecting data
- establish or develop minimum standards for quality data gathering because many listings were established using anecdotal data which was not necessarily a valid or significant method for selection
- the EPA can develop guidance to set minimum data quality requirements
- the state should develop incentives for receiving waters monitoring partnerships using volunteers and meeting the new minimum data quality requirements. This may provide additional data in resulting in a decrease in the Margin of Safety allocation
- EPA should develop guidance in translating narrative standards to numeric criteria
- states coordinate local agencies interested in participating
- state should structure program requirements - data, techniques, protocol
- stakeholder money for monitoring data
- method for data standardization
- piggy back with existing federal programs (USGS)
- minimum data points requirement DO/"Weight of Evidence" approach/volunteer data
- implementation schedule for gathering monitoring data
- states should set clear and scientifically sound QA/QC plan in place and also make clear it will be applied to any voluntary data to be considered
- "candidate" list will help focus data needs
- states must develop a coordinated monitoring program; try to involve stakeholder coalitions

- provide guidance for data quality assurance
- use coalitions to monitor waters - (ex. San Francisco Bay)
- expand state monitoring staff
- enlist citizen groups
- quality? - scrutinize WQ criteria
- it is very important for there to be a documented methodology well in advance of trying to make a decision on listing. This must include a requirement of when and how changes are going to be made (including when to do what). This must include a statement on what data is acceptable (QA/QC) - who generates the data is not important as long as it meets the QA/QC
- protocols for amount of data or what time frame seasonality - statistical approach
- need QA/QC enforced
- standard method
- biological assessments - under EPA general guidance standards of comparison
- need quality data with QA/QC
- right now certain states do biological assessments. Need chemical and bacterial testing protocol. Volunteer monitoring not always effective. EPA should give some technical guidance and let states develop their own methodology. Make methodology transparent. What is the standard of comparison. Are we comparing water body to the ones in national parks? Need a representative water body
- minimum for data collection or standard modeling to follow
- cooperate with USGS to develop this monitoring/assessment plan
- publish 'CALM' to show states models to follow to help give more guidance on data collection needed for a good assessment
- need more time and resources to improve and prioritize water quality data development. Revise 303(d) list in current framework (TMDL) and requirements for action plans
- current programs and priorities within nonpoint sources are a professional assessment of priorities and needs. Build upon this as well
- scientifically defensible models
- data difference between impairment study and TMDL study could lead to problems with implementation
- alternate sources of funding outside state or point source discharge
- establish minimum data standards for sampling, can use volunteers and have equity if data sampling requirements are stable and uniform. Minimum standards should be flexible - margin of safety should be advised if data quality is high and complete
- get designated uses right in the first place (refined)
- require minimum QA/QC for listing criteria and that is subject to public comment
- use weight of evidence approach that looks at health of the water and not just pollutant bright line
- narrative criteria translators = notice and comment
- minimum data standards - how many samples, time period
- recheck basis of listing
- help volunteer groups with data collection
- technical transfer - from other institutions - Universities, USGS, Forest, Fish and put in

STORET

- R&D - need quick, reliable, inexpensive in-situ data
- use statistical science more than is being used now - need enough samples - geographical/temporal
- accuracy
- states need resources to have adequate, statistically-based monitoring program designed to answer impairment question
- money/trained personnel to collect adequate data - need to target monitoring resources - both program-wise and by location
- need incentives for people to monitor
- need to improve/fix STORET batch upload
- need for common sense approach to target constrained financial resources to where needed most
- TMDL isn't just data - information-based
- state resources could be better focused if up front attention is paid to sample program design and then monitoring for existing data, US EPA needs to discuss if present ways to statistically analyze data
- there has always been federal reluctance to set minimum requirements for state monitoring programs; it has been a state's rights issue and variation is allowed in the CWA. Some consistency is required, however
- inequity in the burden of proof between listing and delisting. Some inappropriately listed waters were listed based on practically nothing. But it's damn near impossible to delist them
- fix STORET batch upload capability
- require all data to meet QA/QC requirements, but allow other data sources
- use preliminary list as incentive to monitor
- comprehension listing methodology
- quality: data should be empirical, objective should be to get it right
- monitoring data needs to be better coordinated. More deliberate and systematic approach toward data collection (apples to apples)
- states could collaborate on data on a watershed basis. Share a coordination of data
- weight of evidence approach vs. independent applicability
- listing methodology by state - what is acceptable data - but states have too much political influence - what about regional consistency - watershed rather than geopolitical - EPA regional facilitate discussions
- flow - start in one state, flow to second state - discontinuity
- differing standards for progress and designated uses
- narrative standards = numeric limits
- some criteria not measuring what we think we're measuring
- too rushed to do adequate data searching and analysis - not all data found
- states don't have resources to find/get data. Funds from monitoring are being shifted to TMDL but can't do TMDL because no data
- can state universities step in with data collection - reduced cost, student learning, student career development? Need proper QA

- not easy to collect data - complex processes, equipment - volunteers and students many not be useful
- lack of priority of resources in states a problem
- what about homeowners
- 1 pound of road cut pollutant does not equal 1 pound of forest work pollutant
- data collection by point sources - need to be coordinated or data doesn't fit together, disjointed; also need to coordinate measurement
- methodology: QA/QC; integrated data collection
- translation: narrative standard - pollutant/numeric value
- watershed approach (eliminate state politics)
- data collection: coordinate point source sampling, involve public universities
- EPA needs to provide defined minimum protocol for evaluating data from all sources
- needs faster mode to incorporate recent research results (from private and public sector)
- needs to consider "old" data in terms of "newer" standard analytical methods; if not, then monitoring and evaluation needs to be done before listing
- need less subjective than narrative criteria many states used
- main burden is on the states to define system and provide adequate resources
- ensure integration of non-government monitoring results (e.g. permit-required monitoring) - also other governments
- citizen monitoring is a resource, but lacks spatial and QA robustness for regulatory purposes (can help indicate problem waters)
- ensure effective monitoring - modeling integration
- build requirements into NPDES (POTW and MS4) permits
- need to include use attainability analysis
- better modeling system
- national network of pilot sites
- state driven
- provide sufficient resource funding
- mechanisms for states to promote and use data from third parties
- utilize existing interstate governmental organizations
- concerns about quality and consistency of volunteer monitoring data
- coordinated use of ongoing monitoring data - storm water, Phase I, USGS and non-profit organizations
- EPA and states have to have minimum standards for test methods, sample collection, data quality, QA/QC, etc. and accept and use only data meeting those standards
- EPA starts sending message to states to focus on data quality instead of just pushing list deadlines. EPA should make clear states are accountable for setting data collection schedule and adhering to it (may take years) and must account for deviations
- defend good, credible science: time frame does not match practicality of getting good monitoring - takes money, people and time
- CALM is good first step to standardize data among states
- prioritize water bodies for initial data reporting and TMDL: time
- allow third parties to contribute to process with established QA/QC = CALM for everyone

- there should be a uniform standard applied to all states for the data used to list. A uniform standard goes beyond the guidance document currently in work. At a minimum, this would be requiring states to have an identifiable procedure for how data is collected - EPA approve this procedure, also headquarters should work more closely with regional offices in this effort
- actual collected data - not model - use EPA approved - method for in-stream collection
- data needs to be current dependent on pollutant and current watershed conditions
- better models
- more than one
- validate models with in-stream data
- EPA guidance for sampling protocols; minimum baseline data requirements; QA/QC requirements
- states must establish priorities for sampling / selecting waterbodies
- alternate funding mechanisms for funding sampling - ex. save the bay license plates
- training sampling personnel more rigorously to enhance quality data collection
- how to ensure all waters are monitored - what's a scientifically valid way to monitor? -maybe the counties are testing - but probably not for everything
- go beyond USGS
- easy way to get samples/tests?
- need to document <u>every</u> condition surrounding sampling; need standards
- the best - uniform monitoring from feds; EPA provide guidance on monitoring regulations and how to handle the data
- second best - having a third party monitor - concerns about WQ
- data needs to go to state (because they list it) - ultimately to everyone - database capability
- ideally, sufficient funds should be available for government to conduct the monitoring. Short of that, there should be foolproof monitoring tools developed. Voluntary citizen groups for monitoring provided there are clear QA/QC guidelines
- start with data from point sources already being collected in connection with permits, with additional funding, could add nonpoint source parameters; need data for use/attainability analysis; need to simplify UAA process; use volunteer associations - ok if meet QA/QC; better refinement of modeling - will probably come with better data; need to use regional modeling; focus on problem areas
- (besides money) **-** require discharges to collect more ambient data
- include citizen-collected data (ex. Alabama)
- requiring dischargers to collect that data may have significant cost
- states have more data than they can use; but they don't have a way of analyzing and interpreting
- base standard on attained use instead of levels of specific contaminants
- prioritize data based on use support - but this should include support for aquatic life
- water quality standards should be modernized to address use impairment
- improve ability to determine whether standards are being met
- general agreement that data will improve listing
- general disagreement on the extent of data needed
- listing methodologies should be developed (according to 2000 TMDL rule)
- easier to get on list than off - stringent data requirements for both

- consistency need for WQ parameters to be collected to determine
- accessibility of data to be improved
- WQS and uses must be reviewed before impairments determined
- physical habitat modifications should be recognized and biological criteria developed based on site specific conditions
- depends on what you want to evaluate - aquatic life criteria needs biological assessments - robust protocol. Recreational needs refined sampling protocol
- sharing resources with other groups (states, Army Corps, dischargers)
- EPA guidance on how to revise criteria to be expressed more clearly as magnitude, duration, and frequency
- need more UAA for water segments
- better funding for increased datapoints
- completion of CALM process
- regional implementation or a flexible standardization of uses/listing/etc.
- a safeguard so that 319 funds are not directed to invalidly listed streams - standard method for listing and data
- chronic toxicity - chronic toxicity TMDL for Delaware River based on modified interpretation of test data not supported by Part 136
- zero flow streams - EPA assumes designated uses such as swimming are applied to all water bodies, even in ditches, which are normally dry. The Agency should defer TMDL listing when the State has issued a Use Attainability Analysis inconsistent with the basis for listing
- narrative criteria - very subjective (e.g., fishable/swimmable). Need better way to define, e.g., nutrients - not toxic, complex interactions needed to define protection levels
- biological impairment - indices are targeted to pristine areas. Need to account for physical conditions, which may not support ideal fauna and flora
- nutrient criteria - EPA's suggested criteria approach would classify virtually all waters as impaired. Can't treat nutrients like "toxics"
- equity - inappropriate to regulate minor sources as stringently as major sources. If nonpoint sources are the major contributors, point source regulation will not achieve WQ objectives (nutrients, Hg)
- limit circumstances of application - TMDLs often model drought conditions (e.g., summer temperature, low flow). Such results should only apply when similar conditions are expected (i.e., summer). TMDL should not apply to other seasons
- conditions of analysis must be correlated - do not combine multiple worst-case conditions that have a probability of occurrence less than that required by the water quality standard (e.g. 1 event in 3 years on average). Examples include wet weather loads at drought flow conditions; pH and hardness conditions expected at drought flows; loads from multiple sources unlikely to occur simultaneously at permit level (95-99th percentile)
- need to determine appropriate monitoring strategies on a site specific basis for each watershed. There should be some over arching criteria between watersheds for comparison purposes
- provide funding, then EPA should require states to use multiple lines of evidence as the basis for identifying impairment. Data quality can be improved by requiring standard approved methods to be employed with a formal quality assurance program

- states have main burden/oversight. They simply have to allocate more funding. Should consider leveraging off of other monitoring programs (e.g. USGS's monitoring program) to maximize their finite monitoring dollars
- financial resources are needed, time and technical expertise to re-evaluate lists of impaired and the quality of data used for that determination
- standardized decision trees, nationally
- provide technical information on pollutant loadings based on land use, and industry types
- modeling assistance, standardized assumptions; ranges to work with to account for SWAGs
- need for appropriate analytical methods (EPA approved, performance based, etc.)
- need for appropriate monitoring methodologies or "plans" to guide monitoring
- need for improved modeling approaches/methods/techniques
- need to identify appropriate "designated uses" including drinking water
- need for appropriate water quality standards for all designated uses
- in general, information needed to base decisions on listing based on sound science
- utilize advanced monitoring and assessment technologies (biological assessment, probabalistic risk assessment, use of automatic samplers to get more than a snapshot in time etc.). Urge states to monitor all classes of waters, not just those most likely to be impacted or impaired. Evaluate physical impairments and other habitat effects that affect uses. Establish a substantive standard for state water quality data (QA/QC) obtained by monitoring
- listing methodology should include quality assurance plans for data collection
- states need increased funding for monitoring programs. 106 funds and 319 funds (per the most recent 319 guidelines) cannot be re-directed to TMDL development when there is not enough data to support decision making efforts
- need to provide states with sufficient funding for a proper monitoring program; need to recognize non-state data (volunteers, industries...) As long as QA/QC are met
- interstate groups/commissions (e.g. NEIWPCC) could coordinate training (for monitoring procedure) workshops for watershed groups and volunteer monitoring groups; EPA, states, USGS could be incorporated in the training as "trainers"
- use nationally selected pilots that are more intensely monitored to build a database that can be reduced and evaluated to refine and further develop water pollutant models
- increase amount of data and assure self of quality of data. Monitoring protocol manual and training need in PA - data expected by volunteers to be used - if not why continue other states (OH) use state data collection
- coalition - stakeholders pay to collect data (SF Bay)
- standardize, better analysis
- working with USGS data; minimum data required
- establish/develop communication, funding, minimum standards for data
- money for monitoring
- develop state listing methodology with assurance of a stakeholder input
- stakeholder monitoring encouragement
- all data subject to approp. QA/QC
- data should be current
- better data analysis is capability

- data must be "representative" of the waterbody
- revisit designated use as first step of TMDL; do more UAA's
- need current data reflecting true local conditions
- EPA needs to express preference for actual monitored data over modeled data
- improve cooperation with and involvement of local governments and other stakeholders in the process. Those stakeholders need to contribute resources to the process
- develop and implement guidance to ensure consistency but allow for necessary flexibility to collect data and make impairment decisions. Revisit the performance of the resulting programs and make improvements
- local stakeholders not just states and feds

What should be the format of the list of impaired waters? Should there be a candidate list, and, if so, what types of waters should be included on that list? Should the list be submitted every 2, 4, or 5 years, and why?

- whatever the standard - there should be flexibility built into the rules
- 5 years - allows time to generate sufficient data to make scientifically defensible listing decisions
- integrated listing guidance is a good start to outline possible candidate listing options
- opposed to listing threatened waters
- 2 years clearly not working
- favor 5 years over 4 years because you can sync with other programs (watershed, NPDES cycles)
- should have a robust process for interim listing/delisting
- although plaintiffs will rigorously resist any frequency greater than 2 years, I believe 5 years is the appropriate frequency. If Congress is willing to accept a 5 year interval, states should be required to submit annual monitoring plans which include detailed monitoring intentions for 1 year and then a strategic treatment for the next 4 years
- address the two lists: 303 and 305; 303 comes out of 305
- need a priority list based on the data
- comprehensive look at all the watersheds in the state is needed
- need to identify "threatened waters" including by "designated uses." For example, drinking water sources needed to be identified as threatened before the drinking water exceeds drinking water standards
- the concept of a candidate list could be useful for identifying research needs and research priorities
- the format should address issues such as: what's the acceptable level of error in the listing model? How does the listed water's problems directly relate to 'uses' as well as 'standards'? Is the data used robust enough to be statistically valued or is it a "windshield" analysis?
- states are supportive of the format of the 5 category list outlined in the policy memo on the integrated WQ monitoring and assessment report guidance, where Category 5 is the actual impaired waterbody list
- a 4-part list (as in 2000 Rule) exceeds CWA statutory requirements
- every 5 year submittal coincides with 5 year rotating basin approach

- every 4 year submittal coincides with biennial 305 (b) assessment submittal
- both are more appropriate than 2 years - more time in between allows more work to get done
- list should be broken down into categories:
- impaired, will be addressed with TMDL
- impaired, will be addressed with WQ program other than TMDL
- impaired by natural background conditions and can't be addressed
- not impaired - meeting WQS, no action needed
- not enough data to determine if impairment exists
- impaired, but pollution unidentified
- NRC preliminary screening methods - what might be impaired? EPA should require every 5 years. States may be updating at other intervals. Standard (which one?), format?, elements to be included? Geographic data, see CALM changes recommended
- integrate 303 and 305 listing
- 5 year with annual monitoring plan
- keep program with flexibility for state programs
- candidate list - yes
- include waters that need more data to determine impairment
- 4 or 5 years
- support for new guidance on integrating 303(d) and 305(b)
- 5 years to allow better data collection
- the new guidance for integrated listing is good, but need to consider ways to insure consistency about what should be in each category - TMDLs should be focused where they are needed
- time period of at least 4 years between lists to allow for better use of resources - look into synchronizing permitting. 305(b) / 303(d), rotating basin, etc. - statutory action necessary

What are the most effective ways for the public to participate in the establishment and review of the lists?

- involve early or in usage designations and keep them involved throughout process
- allow sufficient lead time to incorporate public comments into listing methods and data collection activities
- hold public meetings that are watershed specific. Key - identify and actively seek out all the local stakeholders. Involve local officials in the public outreach efforts. Caution on keeping the listing process as science-driven
- PBS and NPR representatives
- mailing list/newsletter to stakeholders
- task force for TMDLs at local level
- try to follow Superfund model
- different levels of involvement and types of public have to get
- public participation is essential for locally driven decisions
- risk communication is a major challenge for informing and educating the public
- EPA has a role for providing materials, studies, and guidance to help states/localities perform public participation

- make waters available on the EPA OW website along with published schedules of updates. Provide interactive email through which the public can inquire about specific issues related to the lists
- watershed specific TMDL listening sessions and public meetings
- greater public education and outreach
- **need to be careful with public participation in the establishment of lists - list must be based on science, not public opinion. Where the public should be involved is in the review of the lists (not establishment) - once lists are developed, public should be educated and informed about how the list was developed and why waters fall into specific categories. This will help the public understand the listing process and get people thinking about where the pollution is coming from....which could help with allocation and implementation
- WS specific public meetings - disclose procedures, methods, funding
- educational aspect - work with local watershed stakeholders
- find local sponsors/stakeholders that give credibility to the process and make it locally meaningful
- outreach? Website? Road show? All of the above - published in state registers - solicit input from process nomination for stream names and data - industry and environmental groups submitted (in a case study) - advertising
- CA - solicitation before list, watch list, review data quality, evaluate list, relist
- post standards
- public understand implications? - consolidated listing may help
- involve public in process early
- planning core group
- education for stakeholder monitoring program
- appropriate QA/QC
- clear and concise instructions from state on acceptable data
- public education on the programs - what is a TMDL, how do all the programs fit together - need good information on how they are affected. We need to do a better job of engaging the public
- work through existing groups and forums - WATERS, newspapers

Session Two

How should TMDLs consider controls developed pursuant to other CWA programs such as storm water and 319 programs? Should TMDLs be deferred until after implementation of these programs? Should the same consideration be afforded to Federal programs and activities under other statutes, e.g. USDA programs?

- should consider in allocation of TMDL, but not defer TMDL unless have reasonable assurance (specific to the impaired water) that programs will fix problem
- if TMDLs are simply an informational tool and implementation is through other programs, then go ahead with TMDL but leave flexibility for existing programs to work and for several approaches

- attainment of standards must rely upon implementation and controls developed under other programs, including 319, USDA, CAA, etc. On-going monitoring and verification of BMP implementation by nonpoint sources are necessary to ensure progress in achieving loading reductions and attainments of standards. States must have requisite funding and guidance to implement these programs and follow up monitoring
- once a TMDL is established, initial implementation actions should stress maximizing benefits from existing programs before developing additional actions
- from an industry point of view; the watershed protection programs must be comprehensive - we will get lost in the individual regulations
- remember that we must operate in multiple jurisdictions and appreciate aggregation and standardization to keep compliance manageable
- case by case: allow flexibility for local decisions - allow flexibility in scheduling if other programs are effective - problem with court-ordered schedules
- use off-roads from TMDL program if activities under other programs will achieve standards within a reasonable period of time
- incorporate reductions obtained through other programs into TMDL process
- if water is listed, use in implementation
- if water is not listed, defer listing
- shouldn't delay TMDL while waiting for others - can proceed together
- regulatory programs aiming toward WQ improvement should be integrated. Consideration of equivalent programs (e.g. Chesapeake Bay) should permit deferral
- need plan development as the overall process. TMDLs handle the WQ concerns, but other resources should also be considered utilizing NEPA and related environmental regulations to develop a locally led plan with assistance from federal and state experts. Planning needs to be based on BAT and with adaptive management used to make adjustments as new science and technology evolves
- no need for deferment since the plan drives the implementation and utilizes all programs based on authorities and money available
- TMDLs are a tool to use. Other CWA programs must and should be taken into account. There is the need to be able to use equivalent programs
- don't need a TMDL if aquatic community is healthy and improving
- basic agreement that TMDLs should use other federal programs to attain WQS (e.g., soil conservation service, EPA storm water program) (CRP, WRP)
- allow use of functionality equivalent programs by states
- "biotech" crops - require less use of herbicides - technology (transgenic crops)
- Clean Air Act - e.g., mercury deposition
- if effective, more easily implemented program can address WQS compliance issue - this should be considered
- implementation plans ensure up front equity for all sources of pollution affected by a TMDL. Otherwise the point sources are the only ones held accountable
- more collaboration between EPA and USDA and other federal agencies
- integration of all EPA water programs to support TMDL from different aspects
- mix and match the programs to get to the goal. No need to defer. They are all pieces of one

whole. Take into account what all the other programs such as USDA erosion control, etc. are accomplishing

- TMDL is an umbrella, supported by other programs
- TMDL provides a focus to range of water quality programs by defining the goal
- should TMDLs be deferred? - perhaps yes if applicant can demonstrate a credible process and mechanism that will achieve the water quality goal within reasonable time - for example, Chesapeake Bay Program
- the TMDL program should be viewed as the umbrella program to attain WQS exploiting opportunities under existing programs to this end
- recognition should be given for early implementation or parallel program completion
- yes, if these programs are meeting the TMDL goals (deferred question) of ensuring water quality and load reductions in a credible way
- information generated by other programs, like USDA safe drinking water may offer needed TMDL information
- yes, but public must be made aware and liability should be decided in consideration of watershed management
- phased TMDLs offer an opportunity to consider these
- all other programs must be acknowledged and factored into the TMDL including CSOS, land use, etc.
- adaptive management is a similar opportunity
- other programs such as USDA CRP, CERCLA, CAA, RCRA must be coordinated with TMDL schedule, also the LA and WLA
- TMDL need not be deferred; implementation phases may be
- phased TMDLs; adaptive management techniques; acknowledge programs in other "agencies" by producing informative outreach
- phased TMDLs/adaptive management
- all other federal programs should be considered/functional equivalents should be allowed for NPS/CAD allocations
- use adaptive management or phased TMDLs to take advantage of the impacts of other such programs. TMDLs should not be the only route to achieving water quality. Allow states flexibility, especially on developing plan and schedule
- proceed with TMDL; allow extended compliance period so that effect of other controls can be assessed
- TMDLs need to address different "designated uses" such as drinking water and therefore: 1) water quality standards need to reflect drinking water contaminants (e.g. microbiologicals) and 2) "listing" approaches need to address the need to improve waterbodies before they exceed drinking water standards
- TMDLs should not be deferred until after implementation of other programs such as USDA - TMDLs should be developed taking into consideration these other programs. Remember that TMDL process is just a planning process
- no way to avoid working with other programs
- no. otherwise why are we here today? - if the existing programs work?
- states have delisting programs independent of TMDLs. They are not waiting for TMDL - rather

the state developed based on the unified watershed assessment

- don't defer the TMDL, just allow for the limitations of the other programs
- TMDLs have to incorporate other programs, however the TMDL has to incorporate and consider the limitations of the other programs. Include interim measures of success that take into account the limitations of programs (such as time lag of bmp effectiveness, lack of numerical standards, etc.).
- have a phased implementation of the TMDL
- should use other programs to compliment. The TMDL should be implemented and not deferred
- EPA should allow and encourage states to use all tools they have to achieve water quality, however if formal TMDLs are not developed, some way of accountability indicating progress is necessary
- locally-led action plans for TMDLs - based on action plan, which CWA program can best accomplish this TMDL
- these questions are poorly written
- this would be possible under existing regulations: state can list impaired waters and schedule TMDL for later after giving other programs an opportunity to meet WQ standards. TMDL serves as a back-stop if other programs don't achieve standard within specific time frame
- need to let programs such as Great Lakes Lakewide Management Plans (LAMPS) and Remedial Action (RAP) Plans be completed before superimposing a TMDL process; TMDL may turn out not to be required
- 319 should be utilized for TMDL implementation
- develop TMDL and implement - other monies could be used on preventative actions
- TMDL should set objectives, but should not set implementation requirements; fund voluntary programs; best management practices for nonpoint; but point sources being directly controlled
- charge ahead with TMDL and account for these activities. Promote them as means for implementation
- integration of programs is very important to reduce any overlap that may occur - TMDLs must consider other controls under CWA and other federal programs
- need to know how the programs affect one another - as far as we know this had not been addressed
- do not defer implementation, but do some initial preventative maintenance (BMPs) to allow for other programs to develop - focus on a stage approach to addressing priority waterbodies
- tie TMDLs into a watershed management approach
- coordinated program - reductions incorporated into TMDL program from NPDES - TMDL is the umbrella program - progress towards WQ goal
- consider controls pursuant to other programs before launch into TMDLs - continue planning process (public involvement, monitoring, bmp options, costs)
- factor in contribution of other program controls, but difficult to put controls through TMDL process on the other programs (i.e., storm water)
- if controls will address the problem then wait to do TMDL. It would be a lower priority
- the TMDL process should consider, in its prioritization scheme, the requirements of other program controls
- if another CWA program has controls to deal with a pollutant, then it should not go on the

TMDL list unless other nonpoint source pollutants may be a major contribution to the impairment
- priority setting considering other controls would lower the priority for TMDL development
- put money where you know there is a problem you can address now!
- do all TMDLs for an impaired waterbody at once to best leverage options/solutions/meet WQS most effectively
- how to integrate multiple parameters rather than treating piecemeal
- can we look at multiple solutions simultaneously and look for synergy in approaches?
- implement through other programs, especially for nonpoint sources. Need coordination and alignment. Deference - it depends. However, should set up incentives for early action without penalty for doing so when TMDL eventually comes. Strong preference for action now

What should be included in the TMDL decision itself? At what stage in the process should specific allocations be decided, and why? How can EPA facilitate greater participation in TMDL development?

- the TMDL should be the assimilative capacity, with specific allocations to NPDES facilities and general allocations to categories of nonpoint sources
- implementation plan should come after TMDL
- total number or load is much easier than allocation of shares
- local community is perhaps best place for allocation decisions
- what local authorities/bodies would make decisions?
- no single criteria for allocation (i.e., past share, economics, etc.)
- states must have enough flexibility to develop sound implementation plans
- if implementation plans are not included in the TMDL, states must conduct proper reasonable assurance analysis to assure nonpoint load reductions are achievable
- states must have authority to carry out waste load allocations, and this authority musts not be withdrawn by EPA
- initially setting the overall number
- following the evaluation of 1) the effectiveness of existing programs and 2) when adequate science is available to reach a defensible allocation
- by giving credit for voluntary actions taken
- TMDL decisions should include the actual TMDLs and a description of potential sources by category, i.e., agriculture, residential, commercial, industry type - only
- allocations should then be developed regionally/locally in the same manner that emission reduction measures are identified with all stakeholders represented - still need more data
- follow air quality model - permitees, regulators, politicians, communities, environmental groups
- specific allocations should take place during the implementation phase
- TMDL should include the allowable load and a gross allocation to point and nonpoint categories
- TMDL should not include approvable implementation plan
- gross allocation of TMDL
- specific allocation in implementation

- credible evidence of impairment will involve nonpoint sources
- stakeholders or active participants
- should be specific or could be limited to WLA/LA and then reinforce 208/319 plans so they provide an approvable (by EPA) implementation plan
- strong deadline for EPA to assume oversight if states do not meet limits
- #5 is somewhat conflicted as to implementation. Uncertainty about legal authority. View that the CPP should be the vehicle - it may need to be beefed up. Skepticism about CPP
- TMDL decision should include WQ concerns, other ent. concerns (nat. res.) economic feasibility and social well-being. One resource should not decide what happens in a watershed without regard to other resource and human concerns. Allocation should be part of the planning process - problem definition stage. Sponsor program neutral planning involving many federal, state and local, private sources of expertise - form planning staff with stakeholder involvement and participation
- TMDL should identify point and nonpoint contributors
- allocations should be made at the local level on a watershed basis
- TMDL decision should include the general allocation for point and nonpoint sources
- specific allocations should be delegated to local agencies for implementation and management
- no consensus on what should be in TMDL
- make part of CPP
- if implementation not part of TMDL, states efforts to develop TMDL numbers will overwhelm implementation
- where should point source and nonpoint source allocations be determined in the process? In first phase or during implementation plan in the CPP
- EPA staff need to be more involved in the states' TMDL development processes. The benefits are that stakeholders will understand that there is a gorilla, EPA can offer technical assistance and EPA will be better prepared to establish a TMDL should the state fail
- implementation plan should be included in the TMDL
- problem with adaptive management - "anti-backsliding issue"
- need accountability for nonpoint sources
- need flexibility for states, but flexibility may get us next to nothing
- "if it's serious, people will participate"
- have to get public involved even if it costs time and money. Otherwise too many lawsuits. EPA should share good public participation stories with the states so that states that don't do it, will be inspired to do it. Educate farmers
- describe listing reasons, define WQ goals, review data evaluation, review model tools, describe WLA, LA options, explain TMDL decision. Group could not agree whether to include implementation plan, but group noted that process is not complete until there is implementation. Discussed but no consensus - did not understand purpose of question
- a template for development such as data evaluation and criteria, listing evaluation and criteria, impairment description and criteria. Make the process more transparent
- better participation using collaborative decision making not for "buy in" but for innovation and creative problem solving
- a sixty to ninety day review period would allow for appropriate stakeholder comment

- participation in TMDL development can be more effective if collaboration and partnership are invoked voluntarily
- the stage at which specific allocation should be decided - should occur during assessment to ensure consistency and ensure implementation plan execution, reasonably and understandable
- we are not sure an implementation plan should be included as funding resources don't always allow
- decision should include the TMDL CAP, LA and WLA at gross levels. Stops short of individual discharge allocations
- leave specific allocations flexible to allow states to practice an adaptive style and to address changing data, needs and resources
- begin with waste load allocation, process can contain revisions per adaptive management - EPA be open to changes to be made
- TMDL cap and gross division between point and nonpoint sources
- TMDL "decision" should end with TMDL and gross WLA and LA
- individual allocations should be in the implementation plan and states should be able to change them as new data, new needs and new resources come in
- establish maximum load only
- provide extended compliance period of 10 years to allow evaluation of nonpoint source controls
- establish baselines and allow for trading/offsets
- develop allocation toward end of process
- include in TMDL decisions: 1) designated uses and 2) threatened waters
- allocations should be made for point and nonpoint sources where appropriate
- identify water body; pollutant problem, load impairment level; list of sources including point sources and nonpoint sources
- WLA and LA that meet the WQS
- "list of 10" checklist, justification for BMP effectiveness
- standard components such as water body identification, causes, sources, uncertainty, future growth, cost-benefit, public participation
- maximum flexibility in how that goal will be reached
- also need to include post implementation monitoring to document success
- TMDL and implementation plan need to be separate
- point source and nonpoint source balance on achieving WQS
- after development of TMDL
- identify common stakeholders
- TMDLs should include allocations of reductions in a general sense (e.g. 60% NPS; 40% PS), which are based on an initial implementation planning process
- TMDL (assimilative capacity analysis) should be separate from implementation plan. The two can be required and approved by EPA, but should be separate steps. Allocations in TMDLs should be broad. Allocations should be more detailed in implementation plan. Why? - things change over time and a more effective stakeholder process is possible if done as a second step. Approved TMDL motivates stakeholder involvement
- flexibility in time frame for nonpoint source TMDL. It takes time to implement BMPs

- project benchmarks with the frame for implementation
- seasonal variance are needed for extraordinary circumstances such as heavy rainfall for nonpoint sources
- inequity is requiring point sources to reduce discharge but nonpoint sources only required to address on a voluntary basis; TMDL has to get done first; point source vs. nonpoint source allocation; need time and flexibility in implementation; have to address proportionality between point and nonpoint sources; all data should be included in decision; gross load plus allocation - must have variance and time schedule
- the TMDL should document the impairment and set an overall loading cap. The individual allocations can be drafted, however this would be better suited for the implementation plan. This would allow time to form a more cost effective, collaborative solution to address the problem
- elements of TMDL decision: 1) demonstrate water impairment 2) demonstrate that designated use is appropriate 3) objective criteria for data that is collected 4) analysis of sources and pollutants 5) allocations
- when should allocations be decided? - allocation is coming out as a result of the entire TMDL process
- facilitate participation
- loading target (point and nonpoint) - develop TMDL
- nonpoint sources deal with problem better if not regulated - usually done under an implementation plan - use this plan as a separate item, later after developed a TMDL plan
- greater public participation in TMDL development - educational outreach through trade associations - make information relevant
- allow time for local communities to participate in TMDL development
- allocation of loads should be part of the implementation process
- total number should be in the TMDL without specific allocation. Either concentration or load. The specific allocations would be done but the number sent to EPA for approval would be a single (water body) number
- implementation plan would not be submitted to EPA for approval with the TMDL
- there needs to be a prioritization of TMDLs
- if a water body is getting better with existing programs, it should be a lower priority for work
- just a load? Or proportioning timing, very detailed? Does a more complex TMDL lend to loss of flexibility?
- keep the implementation plan out of the TMDL? Let it be a separate process
- TMDL - WLA, LA, MOS - as is, maybe add a risk assessment based on designated uses or highest and best uses

What should EPA's response be when a TMDL analysis indicates a problem with the underlying water quality standard?

- even at end of long "TMDL Highway" should still be able to take "off ramp" and revise standard (put TMDL on hold)
- fix it! - work with state to establish appropriate standard (data)

- EPA should provide states criteria for identifying when standards may not be appropriate, and for determining when a UAA might be successful
- TMDLs should not be done on standards that are faulty. There should be an initial determination of the adequacy of a standard before a TMDL is developed
- encourage use of new information to drive re-establishment of the standard, allow point sources or others to receive credit for reductions already achieved where a standard is proved to be at a level higher than that used previously
- improve the appeal process for water quality standards with a more science-based, simplified process - too much reliance on models that don't predict the actual
- allow states to modify standards; improve EPA approval of modified standards
- simplify UAA process or provide alternative procedure that will allow standards to be changed if not achievable
- support revising standard or delisting - short of this, support low TMDL priority
- national science standards would remove the uncertainty
- UAA - needs streamlining - less burdensome
- site-specific criteria
- begin and facilitate the process to correct the problem. TMDLs should not proceed with faulty standards
- if the TMDL uses good science and indicates a problem with the WQS, then most likely it is the incorrect standard for that section and needs to be changed
- if TMDL is done properly and comprehensively, it should define and quantify the issue(s) that is creating the impairment. If it is determined that the WQS cannot be met or is not appropriate, exiting regulatory programs are in place to address the issue
- EPA allow extra year for state to develop new WQS
- halt TMDL process for that year
- case by case, site-specific determination
- EPA should work side-by-side with the state to delay the TMDL (and eat into EPA's backstop time frame if so required by a consent decree) and amend the inappropriate designated use and/or criterion(ia)
- modify the numerical WQ standard itself
- modify the designated use through UAA
- evaluate standards up front
- evaluate use attainability
- there should be a net burdensome process for revising standards that cannot be met because of natural processes
- establish a mechanism to revisit and adjust. Develop criteria to identify problem WQS
- the underlying water quality standard should be considered when determining the magnitude of impairment, resulting from pollutants, e.g. EPA should get more data and consider timing of assessment, as flow is influenced by natural cycles and seasonal surges and that standards were written 30 years ago
- EPA should strongly encourage the state to make a rulemaking to fix the use or the criterion. Also support the criteria with better science, e.g. by using statistically-defined criteria instead of never to be exceeded

- better translators for narrative criteria
- take advantage of phased programs, adaptive management
- EPA must support states in redefining water quality and TMDL science
- phased TMDLs allow EPA and state to work out issue
- EPA should insist on either a use attainability analysis, a refinement of the use, or a revisiting of the water quality decision
- EPA should develop criteria for ephemeral and effluent dominated steams, and for wet weather
- extended compliance period allows several triennial review cycles to change WQS
- clearly, the NPDES program is in place to address point sources
- however, nonpoint sources pollution programs are mainly used in voluntary approach. And results are mixed at best. What can be done to target nonpoint pollution better?
- EPA should suggest the state review the WQS assumptions, i.e., designated use
- narrative - criteria - often caught in the quandary of inconsistent standard
- interstate consistency - EPA assure this happens
- EPA should help a state assure that they're standard is correct (UAA) - do monitoring
- EPA should encourage the state to revisit the standard to see whether they are correct - site specific criteria may need to be developed
- EPA should encourage the state to involve other states (in the case of interstate waters) in setting standards
- develop new standards based on actual use and re-evaluate
- if the need for the TMDL to reach the selected water quality standard is greater than can be achieved there must be a way to resolve the difference so the resources present to meet the WQS are not wasted or activities are not going to be met
- this question makes no sense
- assess correctness to TMDL analysis. Approve TMDL but...
- if correct, EPA should notify state that the WQ standard needs to be reviewed under triennial review process
- stakeholder process involved in state review of WQ standard to achieve balance between designated use and more pollution controls
- review TMDL with state and stakeholder and redefine TMDL and time line
- variances - interim step to downgrading
- improper classifications of uses for a water body should be corrected. If underlying WQ criteria are flawed, they should be revisited. However, the action to lower the goals or objectives for a water body should not happen, even if the goals are not achievable in the near future. Lowering the bar is not an acceptable way to meet the standard
- first need to determine that the designated use is the appropriate one
- focus on priority setting for this re-evaluation process - EPA determines when there is a problem and oversees the process to re-evaluate; states can actually conduct the re-evaluation
- EPA should direct the states to re-evaluate their designated uses
- use attainability analysis - not the same process as TMDL - but driven to do TMDL by existing standards and court - takes a while to do Use Attainability Analysis. Bad perception on changing WQ standards - if process were similar between TMDL and Use Attainability Analysis and at some point they could split - it would help the analysis

- change the standard!
- use attainability analysis should be done but the process should be made more manageable - EPA should require a UAA when the WQ standard is wrong
- make Use Attainability Analysis more streamlined to simplify the ability to adjust a standard
- look at the weight of the evidence on whether to do a TMDL or change a standard

How can EPA facilitate trading and still achieve water quality improvements? What are the issues and how might they be overcome?

- keep the allocations more simple to allow more flexibility in trading
- have some form of examples to show trading successes
- require stakeholders to write implementation plans
- didn't like a trading not on a one-to-one trade
- EPA should accept a one-to-one trade ratio
- liability of tradee with the trader re POTW trades with a farmer to put in BMPs but farmer doesn't hold up his end, then POTW is on the hook
- EPA should help to figure out shifting liability issues between traders. We recognize it's not easy but it is important
- issues of enforcement, especially for nonpoint sources
- point source traded easier
- might be cheaper for municipalities to invest in private lands and conservation practices with private landowners
- very complex to regulate equally and track over time
- take a watershed approach to trading - benefit should be tied to the actual impairment - size of watershed should be taken into account - scale will depend on pollutant
- trading should be voluntary
- designation of watershed scale is critical
- authority for implementation of a trading program needs to be established
- have to have a baseline to develop tradeable units; could be based on a % reduction
- it will be very difficult to trade nonpoint source and point source however in order to be binding nonpoint source it will take a contracted agreement between the watershed stakeholders
- incentives would have to be in place for nonpoint sources to reach contractual agreement
- need to have sources with required limits and sources without required standards
- tracking system for sources to assure trades are meeting their commitments
- ratio factor important
- monitoring
- issues - unless the economics are there, then trading won't work
- must allow flexibility - find situations where it's likely to work (i.e., point source to point source)
- unless economics are there, you are wasting your time - point source and nonpoint source - difficult
- use drainage area approach - watershed approach
- point sources cannot be held responsible for nonpoint source credits - must uncouple. Point sources won't join, otherwise

- consider a watershed bank, buy or sell credits. Uncouple sources from each other
- separate nutrient trading from TMDL Rule - allow as option under phased TMDL
- problem with nonpoint vs. point source trading - use banking
- provide good monitoring, such as Long Island Sound nutrients - trading has worked there. Very complex
- solid regulatory protection under which states can implement trading without fear of litigation
- consider Clean Air Act emission reduction credit model
- must be on watershed basis
- defining "the baseline" can be difficult
- guidelines, pilot projects, and see money
- make implementation as flexible as possible
- we are skeptical it works and is used properly
- EPA should look at how effective trading has been at achieving water quality
- the nonpoint source does not have or present clear liability and potential pollutant growth that point source clearly offers
- is there a way to overcome it? Probably not due to the nature of the beast and some areas, like rural areas, are always at a disadvantage
- trading is a good idea but will require additional development and evaluation. Trading appears to have addressed air quality issues in the Los Angeles Basin
- EPA should continue to look at ways to use trading. EPA should support some pilot efforts. But group is skeptical that trading will be very helpful. Especially noted administrative costs and uncertainties in tracking and enforcing trades
- EPA needs to issue more technical guidance
- 1 lb of point source reduction is not equal to 1 lb of nonpoint source reduction
- downstream and upstream trading
- pollutant specific - not every pollutant can be "traded" in load
- appropriate equalization rates to determine trade off rates
- EPA should provide guidance/examples of trading effluent credits
- model trading programs
- reduce administrative burdens to trading process
- provide a model/guidance on a water basin basis. For this to work must be a phased implementation, put in a control, evaluate, revisit and then adjust. It will be an on-going process
- trading should be a local decision developed as part of the neutral plan. Various alternatives would be evaluated before the selected plan is chosen. Once decision is made, then plan followed
- support is principle
- enforcement CPP
- involvement with stakeholders
- to allow flexibility for innovative trading methods
- allow to trade on progress
- allow for progress to TMDL limits
- no comment
- trading problematic because low flow impairments typically point: high flow typically nonpoint

- scientific problems: science not necessarily adequate to define impairment sufficient to support a market-based system
- reservoir situations may be amenable to trading; flowing streams may not
- to facilitate trading, standard legal agreements should be extended into by all parties of the trade
- better way to quantify BMP impacts
- issues - environmental justice, trading toxics, industry dependency on others was intolerable because of liabilities if others don't come through
- better to allocate and not trade and stakeholders do the allocation
- trading should take place on a watershed basin and be used as a tool to drive second level reduction once allocations are set. Needs to be kept as broad as possible and could be very effective if linked to rotating basin assessment
- trading is only possible after the TMDL has been developed
- trading is practical only in certain circumstances, perhaps best implanted initially in a pilot program
- EPA should not mandate a specific "offset ratio"; states should have the authority to define equity. If expected reductions do not occur, states should resolve at permit renewal
- trading might work best if implemented after users have attained compliance (i.e., for growth of industry)
- trading is a good idea but concept is still very fuzzy - geographic extent
- provide guidance - both technical and legal
- need to address whether trades are legally binding
- do trades imply long-term right
- need to address state resources needed to track trading

What should EPA do if TMDLs are not developed or implemented in a reasonable time, and / or if expected improvements in water quality do not occur?

- not developed: have <u>other</u> entities take a role: counties, industry, etc. possibly <u>mediate</u>, not a take-over of responsibilities
- not implemented: use a <u>goal</u> vs. permit approach
- did not work: adaptive management, adjust over time
- EPA should recognize good faith efforts of states if not a good faith effort then EPA needs to step in and do a TMDL with a solid public participation
- revisit implementation process if WQ improvements do not occur. TMDL process is a dynamic process that must be constantly monitored and tweaked if necessary
- role of EPA is to work with state to use the 303(e) process (CPP) to resolve TMDLs that are not working to improve WQ standards
- states risk funding losses
- lawsuits are effective
- follow the states progress through plans and tracking
- maintain a schedule and work from it (could be with an implementation plan or separate - how to learn from your mistakes!)
- if not implemented, EPA can take action to withhold other types of funds (grants, etc.) to

encourage implementation - put states on notice that this can happen if the TMDLs are3 not implemented - spell this out

- federal funding can be revoked
- if no improvements, make changes to some aspects of the program - enhanced BMPs - adaptive management
- developing consistent guidance: develop minimally accepted TMDLs; develop reasonable time frames: have possibility of never meeting standard; variance - temporary change to standard; streamline variance as interim step to downgrading
- priorities
- EPA should do it if not done by state, perhaps in concert with the state
- if expected improvements do not occur, EPA should 1) determine if sufficient remedial actions have been implemented and assure they are in place and 2) if implementation is done (i.e., TMDL is being met), then EPA should determine if there is a lag-time issue (e.g., ground water flushing period) and 3) if all of the above are met, then the TMDL was not sufficiently tight
- TMDL programs should take an adaptive management approach; if expected improvements in water quality do not occur, the TMDL should be re-evaluated and we should examine what we did wrong and how else can we address the problem
- success of the TMDL program depends on EPA's role as an enforcement authority. Not only should the states develop TMDLs, but they need to be held accountable for TMDL implementation
- if no TMDL is developed or implemented, EPA will have to exercise its authority and develop a TMDL
- If WQ improvements are not occurring, then EPA should let state know it must change TMDL. If the state does not respond in a reasonable time (1 -2 years), the EPA must respond
- should develop check system to ensure reductions are tracked/on track
- evaluate whether or not positive steps are being taken and determine the steps necessary to correct program to meet end goal. Is the state making progress? If not, cut off financial support
- turn off the money
- trust that states know what they are doing. Congress did
- recognize that NGOs are special interest groups, not a poll of the public pulse
- encourage states using EPAs usual leverage strategies
- protect states from lawsuits, provide seed money to develop program
- EPA should be as flexible as possible, recognize the need for several years of site-specific monitoring, and try not to be prescriptive about deadlines
- ambient monitoring programs can be a key
- you cannot put a penalty on it without any consideration to exceptions due to natural flow cycles, financial resource availability, assessment timing, and time flexibility should be given. This is not a situation where an impaired water loses funding after a strict time period and goes away. It's still there and still impaired
- EPA should be diligent in its effort to complete this effort in a reasonable time. It must recognize that lack of existing data, competing demands for resources and technological monitoring improvements necessitate flexibility for state time line to complete this effort
- EPA should recognize time and resource constraints that states and local governments have and

should be flexible
- does this apply for consent decree states?
- extend the time line
- revisit the key issues and see whether any improvements can be done
- not developed - EPA establish
- not implemented - EPA establish
- improvements not occurring - revisit TMDL, adaptive management
- states have indicated a need for funding and resources to reduce backlog of TMDLs
- recognize that some TMDLs will be very complex and will take time to implement (cannot set arbitrary guidelines for completion)
- phased TMDLs that recognize that long term improvements will need to take place before WQ shows improvement (e.g., HG atmospheric deposition)
- with the current approach EPA is going to be disappointed with "reasonable time." Must emphasize phased-in implementation
- depends on if the program neutral plan is being developed and implemented and if not why not? Funding, economic viability or social well-being reasons could over-ride TMDLs
- phased TMDL/adaptive management
- no comment
- give states more funding and technical expertise to allow them to better develop and implement TMDLs
- concern that EPA cannot necessarily take over from state because of resource issues
- states will be subject to litigation if they fail to develop or implement necessary TMDL
- foster program; work with state to get it through
- as it is now, EPA take over the program or use legal methods to enforce
- EPA could develop a funding source early on and have benchmarks for state to follow progress
- EPA needs to be more aggressive in oversight of the state programs and whether or not states should continue to be delegated authority for those programs
- EPA should require states to go back and reconsider its: water quality standards, use attainability, the TMDL itself, and implementation procedures, particularly in regard to impairments predominantly from nonpoint and legacy sources
- perhaps "reasonable progress" is better measure vs. number of TMDLs?
- evidence of continuing progress
- job will never be finished as long as moving targets
- reasonable time will be site-specific and rule will need to allow flexibility

How can the science of establishing TMDLs be improved?

- more effort in nonpoint source modeling to decrease assumptions, assure more certainty
- more forward research on specific parameters
- look at the "weight of the evidence" to determine the impairment (i.e., look at chemical, biological, physical instead of a "bright-line" number)
- put together a multi-disciplinary team to develop a TMDL. Utilize people knowledgeable of the watershed to do the TMDL

- better science needed in the effectiveness of BMPs specific to watersheds or multiple watershed areas
- needs to be a better understanding of BMP removal rates, design and O&M
- EPA should encourage and allow use of 319 money to fund projects to advance the science of BMP effectiveness, design and O&M
- data and water quality monitoring issues
- modeling issues
- adaptive management - (check on the process and how things change and adapt your program) - learning process!
- better process for QC of data being used
- increased consistency in data
- more money for monitoring data
- utilize existing data - such as USGS data
- listing and delisting procedures are needed
- CALM document guidelines
- implement NAS recommendation
- long-term commitment of resources to support basic research
- resources for consolidating known knowledge / tools
- various help lines (800#s) for technical support (very detailed technical support)
- for northeastern-based TMDLs, greater focus needs to be directed to atmospheric deposition and obtaining a greater understanding of exact contributions - if atmospheric deposition is not further examined, it's close to pointless for northeastern states to develop and implement TMDLs
- learn from previous experience and apply lessons then use saved dollar for implementation
- money, data, database, better analytical tools, models, better data collection
- money for monitoring, analytical tools, modeling
- limit applications to conditions represented by model
- avoid compounding worst case assumptions on implementation and in modeling
- calibrate or re-calibrate and improve the models with new data
- do a focused research program using states and stakeholder input in define needs
- BMP effectiveness
- water quality standards and designated uses
- post coordination % model forecasts
- support appropriate research
- provide successful case studies
- re-evaluate models with new data, and improve models based on ambient data
- monitor BMP effectiveness, provide case studies
- explaining that in the case of slopes, and flow and other aspects, that there are certain elements to be reviewed, just as required in any assessment
- using GIS and reviewing already established watershed plans is key to effectiveness
- using already established regional development organizations to generate and gather data is an effective avenue to enhancing data organization and accessibility
- help some areas get the technical expertise they need

- provide additional training to elevate the skill level of federal, state and local interested parties
- EPA provide training like watershed model training academy
- raise the general skill level across the country
- better modeling tools
- pollutant source tracking technology
- more objective allocation techniques
- more vigorous uncertainty analysis
- better modeling tools
- improved sampling, QA/QC and modeling guidance and procedures
- develop sound and defensible decisions with firm scientific basis
- employee training
- EPA must be/have reasonable expectations with ability to use UAA and its results - local residents need to be fully involved
- select pilot watersheds that are monitored according to a plan to develop databases that can be used to better define processes and computer models that can be used to predict loading changes
- plan, implement, monitor, modify
- better tools for modeling
- better data and better algorithms
- better integrated atmospheric depositions
- put the new listing guidance into rule so no longer guidance
- recognize nonpoint source characteristics: improve target definition - excursion magnitude, duration, frequency. Update Stefan et.al. (1985). Improve specificity and stratification of designated uses. Verify water quality models, particularly for episodic events. Utilize multiple lines of evidence (more important for assessing implementation)
- develop adequate spatial and temporal data to allow accurate modeling
- improve science behind translation of excursions (magnitude, duration, and frequency) to impairments
- need better science to support standards, including designated uses and criteria
- address climate differences: acid areas
- standardize testing methods, frequencies
- models must be verified
- better definition of margin of safety
- better definition of source identification
- better definition of modeling
- better definition of monitoring to test effectiveness of BMPs and/or other implementation actions
- implement NAS recommendations
- data quality, sufficient monitoring
- more and better properly validated models with adequate error analysis
- sound science in listing and delisting
- stakeholders have huge stake in good data and could be significant source of money for monitoring and data collecting
- data, data, data!

- EPA role for tech/monitoring programs - i.e., equipment, technology

Other Comments

- new rule needs to set out clearer role for EPA in the development of TMDLs for water bodies that cross state boundaries. EPA not necessarily to develop the specific TMDLs but to assure coordination
- the TMDL for a water body needs to include a specific assurance of implementation beyond listing of possible programs. For a water body, should be an evaluation of existing controls, programs and practices being implemented now, and capacity for expansion
- the listing process needs to include biological resource response as well as water quality criteria. There needs to be better designated uses which account for physical limitations or artificial, permanent channel/water body changes (concrete conveyance, recreational pond)
- TMDL is very end of pipe. The process should consider other programs, i.e., pollution prevention projects to eliminate pollutants; allow flexibility in reuse; and share BMPs. One size fits all is not a good approach and more flexibility needs to be given to regions, communities in establishing methods in allocation between point and nonpoint. Consideration needs to be given to those organizations striving for "yes-discharge" that may discharge during storm situations - 10-25-100 year conditions. I did not learn anything about new technology for sampling and watershed characterization. We need to use technology through aerial use of new imaging to help profile pollutant trends - need better/easier data to help make management decisions in improving water quality. Free market trading should be a watershed decision and not part of rule
- the air program has very similar goals and activities, it would be valuable to find out successes/challenges in forming regional groups to reduce emissions and apply to reduction in discharges to reach attainment, i.e., TMDLs by watershed
- TMDLs look like they will just trigger a morass of court cases; avoid some enforcement issues to minimize impacts or have TMDLs presented as a range instead of an absolute number
- atmospheric deposition needs to be better addressed in the CWA
- enforce existing requirements; facilitate use of BMPs and low impact development
- industry responds to decreased cost, compliance requirements and P.R. For industry buy-in, must stress P2 rewards, put teeth in regulations and give an opportunity for good P.R.
- in the opening session, we discussed putting implementation plans into TMDLs. The reason cited was that voluntary BMPs haven't been a reliable effective source of reductions, presumably because EPA doesn't have the authority to regulate and enforce nonpoint sources via BMPs. Making IPs part of the TMDL doesn't address the problem cited. If EPA doesn't have authority to regulate nonpoint sources outright, then EPA can't enforce BMPs in an IP just because it is developed as a part of a TMDL. If EPA tries to require BMPs via their TMDL approval authority, they would expose themselves to the same authority-to-regulate argument. In other words, inserting IPs into the TMDL process doesn't change EPA's authority to regulate nonpoint sources
- (as they are currently developed, TMDLs are not always the best mechanism for achieving WQS. A substitute, in the case of nonpoint sources, could be a targeted implementation plan.

Targeted in that the major categories of sources are targeted, but also the major individual contributors. First come, first serve cost-share programs don't work, but the nonpoint source National Monitoring Program has examples of watersheds where 70 - 80% load reduction has been achieved. Then later one bad actor was enough to erase the effects of the earlier reduction. ALL implementation has to be targeted (319, EQIP, CRP, state cost-share, etc.). If we have a truly targeted plan, then we're working towards load reduction. During the implementation of the plan, mechanisms should be used to evaluate the success of the plan and to redirect the plan as necessary to meet goals

- clarify where the line is drawn in a TMDL...1) TMDL should be gross load allocations, caps and mos and description of how to achieve standard, 2) Implementation plan should be a separate component. This allows for uncertainty and new information provides consideration for other programs. Integrate better with other federal environmental programs and CWA deadlines - TMDLs must be coordinated with CERCLA cleanups - what to do about atmospheric deposition of Mercury?
- some water quality standards do not fit well (or at all) with our current understanding of how aquatic ecosystems actually work. Example: 5 mg/l do "anytime, anywhere in estuarine waters. There needs to be a mechanism for revising water quality standards that is less burdensome than the current rules, at least when motivation is for "science" reasons rather than social or economic reasons. Similarly for designated uses. Some designated uses were assigned decades ago when there was a lower level of understanding (or perhaps less attention paid to the issue than should have been). Example: many states assign primary contact recreation use to all waters of state, which involves, among other standards, 200MPN fecal coliform. But many waters do not, did not, and never will, experience primary contact recreation, i.e., the backwoods stream that is 6 " deep, 6 feet wide and has no human structures in the watershed
- nonpoint source - air deposition. EPA needs to work with Air Quality Management personnel on this issue immediately. For example, in Los Angeles Santa Monica Bay is impaired for heavy metals. A recent report from a respected research group has indicated that 60% of the metals contributed to the Santa Monica Bay is through nonpoint source air deposition. Our concern is that nonpoint source pollution from atmospheric pollution and legacy source be addressed fairly and equitably in relationship to point sources. The anti-degradation policy should not apply subsequent to the WQS being met. The EPA should develop 'interim permitting' guidance allowing existing NPDES permit limits to remain during TMDL development. EPA should seek additional funding. According to the projected TMDL schedule for the Los Angeles region, the costs of developing TMDLs over the next 13 years could be as high as $100 million. Total Region 9 assistance is $600k/ annually. This assistance does not address the implementation component for municipalities
- listing - weight-of-evidence should specifically be allowed to define that a use is not impaired, even if a numerical criterion appears to be exceeded. EPA oversight - as states must outline listing methodology, EPA must explicitly outline its TMDL approval methodology. Using a doctrine similar to the deference EPA receives in Chevron v. NRDC, EPA should defer to any reasonable approach that states take, even if it would not have been EPA's approach. Resources - EPA has to find the courage to tell Congress that this is really going to cost. EPA should explain how EPA regions will be approving 1-2 TMDLs/day each in the next 10 years

or so to get through the 40,000 current TMDLs on the list

- the TMDL program is one of many tools that should be applied to water quality management. Currently, EPA plans to require 319 grants to only be used for TMDL development and implementation. States should have the flexibility to pursue and implement other (non-TMDL) programs that address threatened and impaired waters. The states desire is for flexibility in developing robust nonpoint source programs that best address each states priorities for watershed protection and restoration. Forcing the states to apply 319 only to TMDL related issues will take away preventative and protection efforts to keep clean water — clean! Focusing on 303(d)/TMDL waters only will result in newly impaired waters; clean waters will not be protected. The decision to fund TMDL development and implementation with 319 funds could result in the unnecessary degradation of waters in need of protection, not restoration, activities
- for nonpoint source-impaired watersheds, the TMDLs are not really specific enough to offer any information that is absolutely essential for developing a watershed restoration plan. A fair amount of additional effort will be needed to develop a restoration plan, to the point that a watershed restoration plan can reasonably be developed without having some through the TMDL process first. Because a stakeholder-driven plan is more likely to be implemented than a plan driven by a bureaucratic process, I don't advocate more detail in the TMDLs. The key point is that the proposed FY03 Section 319 guidance should not restrict 80% of the incremental funds to TMDL implementation. That gives the TMDLs too much weight, when restoration of impaired waters can and does happen without them. And restoration or a clear trend of water quality improvement could eliminate the need for a TMDL
- the EPA should be the ultimate enforcer of the development and implementation of TMDLs. States are inconsistent, subject to local pressure and often lack the resolve to do the right thing. The EPA must have the authority and the resources to enforce the CWA. Water quality standards, their development and application should be based on science and fairly and consistently applied. Parameters and protocols should be based on a national standard. Do not weaken TMDLs. Do not delay their implementation. Recognize this is simply a way of making sure that polluters are held accountable. Costs of doing business should not be passed on to the taxpayer
- the overwhelming majority of the pollution problems we are attempting to deal with are nonpoint sources. However, the tendency to look at point source reductions as a solution is very large. Watershed is impacted by nutrient and sediment. Phosphorus is the limiting nutrient, source is agricultural however there are point source dischargers in the watershed also. Current loading scenario shows that 80% of load is from nonpoint sources. There are 5 treatment plants in the watershed that are discharging at half of their hydraulic capacity, and half of their concentration. This means that the treatment plant or WLA portion of the TMDL is equal to 25% of their theoretical permitted load. Current practice would make us include a non-existent load that would represent maximum permitted loads for the WLA, or use existing conditions, which would require new limits in the permit. This does not address the problem, nor does it necessarily make the most sense. This approach does not account for the shift in land use from agriculture to some degree of residential housing. This would be required to increase the flow at the treatment plant which in turn raises the load. At the same time, the phosphorus input from

the landscape is going to decrease. How do we account for this? There will be a shift in loading from nonpoint source to point source, is it an equal shift? Flexibility in implementation of point source controls is needed to span permit cycles (2 or 3) and should not be required until some kind of nonpoint source remediation activity is started